

ABSTRACT OF THE DISCLOSURE

An angle detector 25 sets a q-axis command current to a first magnetic pole detecting current I_{q_p1} and a second magnetic pole detecting current I_{q_p2} , and performs a magnetic pole detecting process to calculate a first magnetic pole reference value A_1 and a second magnetic pole reference value A_2 ($t_2 - t_3$, $t_4 - t_5$), and detect the orientation of the magnetic poles of a rotor 2 of a motor 1 based on the sign of the difference ΔA ($= A_1 - A_2$) between the first magnetic pole reference value A_1 and the second magnetic pole reference value A_2 . The angle detector 25 effects a proportional process only on the difference between the q-axis command current and a detected q-axis current and the difference between a d-axis command current and a detected d-axis current to calculate a current difference ($t_2 - t_5$) under current feedback control when the magnetic pole detecting process is carried out, and effects a proportional plus integral process on the above differences to calculate a current difference ($t_0 - t_2$, $t_5 -$) under current feedback control when the magnetic pole detecting process is not carried out.